TECHNICAL AMENDMENTS TO THE CLAIMS:

IN THE CLAIMS:

Please amend Claims 1-4, 6-9, 13, 15-22, 27-28, 31-32, and 34-36 as indicated hereinbelow.

Please cancel Claims 24, 25 and 33 without disclaimer or prejudice to the prosecution of the subject matter of these claims in subsequent divisional or continuation patent applications.

Please add new Claim 37.

Listing of Claims:

1. (Currently amended) An isolated nucleic acid comprising a nucleic acid sequence encoding a thanatin peptide which comprises the amino acid sequence of Formula I:

(I) Xaa-Ile-Ile-Tyr-Cys-Asn-Arg-Arg-Thr-Gly-Lys-Cys-Xaa (SEQ ID NO:14)

in which

Xaa at position 1 represents ~~NH2 or~~ a variable number of 1-10 amino acid residues selected from the group consisting of Gly, Ser, Lys, Pro and Val;~~,~~ and

Xaa at position 13 represents ~~OH or~~ a variable number of 1~~0~~-5 amino acid residues selected from the group consisting of Gln, Arg, and Met.

2. (Currently amended) The isolated nucleic acid of Celaim 1, wherein the nucleic acid is DNA.

3. (Currently amended) The isolated nucleic acid of Celaim 2, wherein the nucleic acid ~~sequence~~ is selected from the group consisting of the nucleic acid of SEQ ID NO:1 and the nucleic acid fully complementary to ~~complement of~~ SEQ ID NO:1.

4. (Currently amended) The isolated nucleic acid of Celaim 2, wherein the nucleic acid ~~sequence~~ is selected from the group consisting of the nucleic acid of SEQ ID NO:2 and the nucleic acid fully complementary to ~~complement of~~ SEQ ID NO:2.

5. (Cancelled)

6. (Currently amended) The isolated nucleic acid of Celaim 1 further comprising a second nucleic acid ~~sequence~~, wherein said second nucleic acid ~~sequence~~ encodes a signal peptide or a transit peptide and is operably linked to the first nucleic acid ~~sequence~~.

7. (Currently amended) The isolated nucleic acid of Celaim 6, wherein the signal peptide encoded by the second nucleic acid ~~sequence~~ is the signal peptide from the tobacco PR-la gene.

8. (Currently amended) The isolated nucleic acid of Celaim 1, wherein the nucleic acid sequence is selected from the group consisting of the nucleic acid of SEQ ID NO:5, nucleotides 12 to 164 of SEQ ID NO:5, the nucleic acid fully complementary to ~~the complement of~~ SEQ ID NO:5, and the nucleic acid fully complementary to ~~the complement of~~ nucleotides 12 to 164 of SEQ ID NO:5.

9. (Currently amended) The isolated nucleic acid of Celaim 8, wherein the nucleic acid ~~sequence~~ is nucleotides 12 to 164 of SEQ ID NO:5.

10. (Cancelled)

11. (Cancelled)

12. (Cancelled)

13. (Currently amended) A chimeric gene comprising a coding sequence operably linked to at least one heterologous regulatory element, wherein said coding sequence comprises a nucleic acid sequence encoding a thanatin peptide which comprises the amino acid sequence of Formula I:

(I) Xaa-Ile-Ile-Tyr-Cys-Asn-Arg-Arg-Thr-Gly-Lys-Cys-Xaa (SEQ ID NO:14)

in which

Xaa at position 1 represents ~~NH2 or~~ a variable number of 1-10 amino acid residues selected from the group consisting of Gly, Ser, Lys, Pro and Val;~~,~~ and

Xaa at position 13 represents ~~OH or~~ a variable number of 1~~0~~-5 amino acid residues selected from the group consisting of Gln, Arg, and Met.

14. (Cancelled)

15. (Currently amended) The chimeric gene of Celaim 13, further comprising a selectable marker.

16. (Currently amended) An expression vector comprising at least one replication origin and a chimeric gene which comprises a coding sequence operably linked to at least one heterologous regulatory element, wherein said coding sequence comprises a nucleic acid

~~sequence~~ encoding a thanatin peptide which comprises the amino acid sequence of Formula I:

(I) Xaa-Ile-Ile-Tyr-Cys-Asn-Arg-Arg-Thr-Gly-Lys-Cys-Xaa (SEQ ID NO:14)

in which

Xaa at position 1 represents ~~NH2 or~~ a variable number of 1-10 amino acid residues selected from the group consisting of Gly, Ser, Lys, Pro and Val;~~,~~ and

Xaa at position 13 represents ~~OH or~~ a variable number of 1~~0~~-5 amino acid residues selected from the group consisting of Gln, Arg, and Met.

17. (Currently amended) The expression vector of Celaim 16, wherein said expression vector is a viral plant transformation vector.

18. (Currently amended) The expression vector of Celaim 16, wherein said expression vector is a plasmid.

19. (Currently amended) A transformed host cell comprising a chimeric gene which comprises a coding sequence operably linked to at least one heterologous regulatory element, wherein said coding sequence comprises a nucleic acid ~~sequence~~ encoding a thanatin peptide which comprises the amino acid sequence of Formula I:

(I) Xaa-Ile-Ile-Tyr-Cys-Asn-Arg-Arg-Thr-Gly-Lys-Cys-Xaa (SEQ ID NO:14)

in which

Xaa at position 1 represents ~~NH2 or~~ a variable number of 1-10 amino acid residues selected from the group consisting of Gly, Ser, Lys, Pro and Val;~~,~~ and

Xaa at position 13 represents ~~OH or~~ a variable number of 1~~0~~-5 amino acid residues selected from the group consisting of Gln, Arg, and Met.

20. (Currently amended) The transformed host cell of Celaim 19, wherein the transformed host cell is a plant cell.

21. (Currently amended) A plant comprising at least one transformed host cell of Celaim 19.

22. (Currently amended) The plant of Celaim 21, wherein substantially all of the cells of the plant are transformed host cells of Celaim 20.

23. (Cancelled)

24. (Cancelled)

25. (Cancelled)

26. (Cancelled)

27. (Currently amended) A seed of the transformed plant of Celaim 22~~23~~4, wherein the seed retains the nucleic acid.

28. (Currently amended) A method of transforming a cell of a host organism comprising contacting the cell of the host organism with a chimeric gene which comprises a coding sequence operably linked to at least one heterologous regulatory element, wherein said coding sequence comprises a nucleic acid ~~sequence~~ encoding a thanatin peptide which comprises the amino acid sequence of Formula I:

(I) Xaa-Ile-Ile-Tyr-Cys-Asn-Arg-Arg-Thr-Gly-Lys-Cys-Xaa (SEQ ID NO:14)

in which

Xaa at position 1 represents ~~NH2 or~~ a variable number of 1-10 amino acid residues selected from the group consisting of Gly, Ser, Lys, Pro and Val;~~,~~ and

Xaa at position 13 represents ~~OH or~~ a variable number of ~~1~~0-5 amino acid residues selected from the group consisting of Gln, Arg, and Met,

under conditions that permit said cell to take up said chimeric gene.

29. (Cancelled)

30. (Cancelled)

31. (Currently amended) The method of Celaim 28, wherein the host organism is a plant and said method further comprises regenerating a transformed plant from said transformed cell.

32. (Currently amended) The method according to Celaim 28~~29~~, further comprising cultivating the transformed plant under conditions that permit expression of said chimeric gene~~nucleic acid sequence encoding the amino acid sequence of Formula I, wherein the expression of said nucleic acid sequence confers disease resistance upon the transformed plant~~.

33. (Cancelled)

34. (Currently amended) A method of generating a transformed progeny plant comprising:

crossing a plant having at least one gametophyte comprising a chimeric gene which comprises a coding sequence operably linked to at least one heterologous regulatory element, wherein said coding sequence comprises a nucleic acid sequence encoding the amino acid sequence of Formula I:

(I) Xaa-Ile-Ile-Tyr-Cys-Asn-Arg-Arg-Thr-Gly-Lys-Cys-Xaa (SEQ ID NO:14)

in which

Xaa at position 1 represents ~~NH2 or~~ a variable number of 1-10 amino acid residues selected from the group consisting of Gly, Ser, Lys, Pro and Val;~~,~~ and

Xaa at position 13 represents ~~OH or~~ a variable number of 1~~0~~-5 amino acid residues selected from the group consisting of Gln, Arg, and Met; and

cultivating the plant under conditions that permit formation of at least one seed; and

cultivating the seed under conditions that permit the seed to grow into a progeny plant,

wherein the progeny plant retains the nucleic acid.

35. (Currently amended) The isolated nucleic acid of Celaim 1, wherein the nucleic acid ~~sequence~~ is selected from the group consisting of the nucleic acid of SEQ ID NO:1 and the nucleic acid fully complementary to ~~complement of~~ SEQ ID NO:1.

36. (Currently amended) An isolated nucleic acid comprising a nucleic acid ~~sequence~~ encoding ~~the sequence of~~ amino acids 2-12 of SEQ ID NO:14.

37. (New) The isolated nucleic acid selected from the group consisting of the nucleic acid of SEQ ID NO:3 and the nucleic acid fully complementary to SEQ ID NO:3.